

# Virtual cab simulators

## Combat vehicle simulators



RUAG develops and produces crews training simulators dedicated to combat vehicles driving and firing procedures.

Our simulators are used indoor to train crews for operational readiness in observation, firing, and implementation of operational procedures. The simulators can be used for individual training of the driver, commander or gunner as well as group instruction of the driver/commander/gunner right up to the platoon level.

Training can be conducted in mounted mode (at the platoon leader's orders) or dismounted mode (at the platoon sergeant's orders) with special emphasis on the firing capabilities (techniques and procedures) and command (communications and information exchange with the simulator's on-board BMS-Battlefield Management System).

Based on the VIRTUAL ARENA™ software suite, our simulators reproduce accurately the Man-Machine Interfaces of the vehicles and the behaviour of the embedded systems to offer a efficient and cost-saving training:

- Realism of the cab replicas
- Realism of the 3D synthetic worlds (special effects, environment)
- Realism of the vehicle dynamic behaviour (on road, off road and in aquatic conditions)
- Realism of the targets behaviour (artificial intelligence)
- Shooting accuracy
- Realism of the implementation of the Battlefield Management System



Our simulators are HLA certified and are networked to other simulators (up to 64 in some applications) in exercises enabling the training of the crews of several platoons and squadrons simultaneously.

Based on the same software applications, RUAG supplies also simplified trainers in which the reproduction of the cabins is mainly done with an assembly of displays as a virtual cockpit. These simplified trainers are easily configurable to reproduce several types of vehicles, thus minimising the hardware cost of the simulators. It enables an efficient and cost-effective preliminary training before using full scale replica simulators to finalise the training.

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Each crew member is immersed in a virtual environment with realistic sounds and visuals and has access to the same capabilities as the ones in the real stations.

With the instructor and exercise leader stations, the exercises can be created, briefed, played and then debriefed all in the simulator environment itself, keeping instructor involvement to a minimum. A crew and operator assessment report is automatically generated at the end of the exercise.

During the exercise, the instructor and/or exercise leader have voice communications (radio-intercom) with the crews, monitor and change virtual crew member environments using the exercise control tool for 3D viewing and various interfaces to create malfunctions. Each instructor station can control one cabin individually or several cabins simultaneously (platoon mode).

New exercises can be created using several field databases such as Central Europe, Middle East and Africa. Each database is partly or completely linked to an artificial intelligence module for more realistic action, as well as a library of entities, faithfully depicting typical civilians and civilian vehicles along with infantrymen and military vehicles in combat operations.

Cab simulators already supplied are: Leclerc, BMP-3, VBCI, ERC90, CV90, M109, G6, HMMWV, Tatra.

RUAG Defence France is the supplier of VBCI and ERC90 cab simulators for the French Army.

